

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-77 (Cancelled).

Claim 78 (New): A method for detecting change of a physically measurable property of a sample, comprising:

(i) generating and passing radiation through an optical mask to generate masked radiation having a specific intensity distribution, the specific intensity distribution having a known pattern function that depends on a position where the radiation has passed through the mask;

(ii) subjecting the sample to the masked radiation for a defined action time, to thereby cause a change in a physical property of the sample during the defined action time;

(iii) detecting at least one of transmission, reflection, and scattering of analysis radiation generated by at least one of transmission, reflection, and scattering of the masked radiation by the sample, as a function of position coordinates of the analysis radiation relative to the sample and a wavelength of the analysis radiation, so as to determine a response function that describes intensity of the at least one of transmitted, reflected, and scattered analysis radiation as a function of the position coordinates relative to the sample and the wavelength; and

(iv) determining a correlation of the specific intensity distribution of the masked radiation with the response function by a correlation analysis, the correlation analysis producing a measure of a change of the physically measurable property of the sample due to the masked radiation during the defined action time.

Claim 79 (New): The method as claimed in claim 78, wherein the radiation includes light in a wavelength between 400nm and 800nm.

Claim 80 (New): The method as claimed in claim 78, wherein the specific intensity distribution produced a reference pattern on the sample during said step of (ii) subjecting.

Claim 81 (New): The method as claimed in claim 78, wherein the specific intensity distribution is produced by the mask that has a wavelength-dependent transmission function.

Claim 82 (New): The method as claimed in claim 78, wherein the radiation is generated by artificial or natural sunlight.

Claim 83 (New): The method as claimed in claim 78, wherein the mask is a barcode mask.

Claim 84 (New): The method as claimed in claim 78, wherein the specific intensity distribution is a periodic intensity distribution with a spatial frequency.

Claim 85 (New): The method as claimed in claim 78, wherein the at least one of the transmission, reflection, and scattering of analysis radiation is determined in at least one of Ultra Violet-Visible Spectroscopy and Near Infrared.

Claim 86 (New): The method as claimed in claim 78, wherein the at least one of the transmission, reflection, and scattering of analysis radiation by the sample is determined for a

plurality of wavelength ranges, so as to determine a plurality of response functions for the plurality of wavelength ranges.

Claim 87 (New): The method as claimed in claim 78, wherein the response function is respectively determined for red, green and blue light by RGB analysis.

Claim 88 (New): The method as claimed in claim 78, wherein the reflection of the analysis radiation is detected.

Claim 89 (New): The method as claimed in claim 88, further comprising the step of: using telecentric measurement optics for detecting the reflection of the analysis radiation.

Claim 90 (New): The method as claimed in claim 78, wherein the scattering of the analysis radiation is detected.

Claim 91 (New): The method as claimed in claim 90, further comprising the step of: using a confocal color measurement system for detecting the scattering of the analysis radiation.

Claim 92 (New): The method as claimed in claim 78, wherein at least one of the reflection and scattering of the analysis radiation by the sample as a function of the position coordinates relative to the sample is detected using a color scanner.

Claim 93 (New): The method as claimed in claim 78, wherein the at least one of the reflection and scattering of the analysis radiation by the sample as a function of the position coordinates relative to the sample is detected using a digital camera.

Claim 94 (New): The method as claimed in claim 78, wherein the sample includes a substrate and that is covered with paint, and the masked radiation acts on the paint.

Claim 95 (New): The method as claimed in claim 94, wherein the paint is an automobile paint.

Claim 96 (New): The method as claimed in claim 78, wherein said pattern function is generated by a periodic grating structure on the mask.